

TIF-31735

Patent Amendment

A1  
cont'd

from moving the datapath cells in later operations. Constraints for the remaining cells are then installed in the place and route tool, and criteria-driven placement, such as timing-driven placement, can be used to arrange these cells in an optimum fashion. The remaining cells can be placed in open areas of the datapath structure for improved density.

---

In the claims:

Please substitute each of the following claims for the pending claim of the same number:

Sub B7

1 (Amended). A method of controlling layout of cells in an integrated circuit including datapath cells in a structured layout and other cells in an unstructured layout, comprising the steps of:

A2

- generating a description of a desired layout for the datapath cells;
- transferring said description to a place and route tool to assign the desired layout to the datapath cells within the place and route tool;
- assigning a fixed status to the datapath cells to prevent movement of the cells;
- transferring desired criteria regarding the other cells to the place and route tool;

and

- optimizing the layout based on said desired criteria, such that the datapaths cells are unmoved as different layout iterations are performed on the other cells.

---

A3

5 (Amended). The method of claim 3 wherein said step of generating one or more matrices comprises the step of generating matrices having two or more matrices with interleaved columns.

6 (Amended). The method of claim 3 wherein said step of generating matrices comprises the step of generating matrices leaving free space between slots for datapath cells in which ones of said other cells are placed.

---

TIF-31735

Patent Amendment

8 (Amended). An apparatus for controlling layout of cells in an integrated circuit including datapath cells in a structured layout and other cells in an unstructured layout, comprising:

a place and route tool;

A4 a datapath generator for generating a description of a desired layout for the datapath cells and transferring said description to a place and route tool to assign the desired layout to the datapath cells within the place and route tool;

wherein a fixed status can be assigned to the datapath cells in said place and route tool to prevent movement of the cells during optimization of the layout of said other cells.

9 (Amended). The apparatus of claim 8 wherein said place and route tool receives information on said datapath and other cells.

A5 13 (Amended). The apparatus of claim 10 wherein said datapath generator generates a description of a plurality of matrices for datapath cells leaving free space between slots of said matrices in which ones of said other cells are placed.